Appl. No. 10/814,706
Amdt. dated April 29, 2005
Preliminary Amendment

PATENT

Amendments to the Specification:

Please replace paragraph [0001] with the following amended paragraph:

[0001]   The present application incorporates by reference for all purposes the entire contents of U.S. Application No. [[__/___,___]] 10/807,857 (Attorney Docket No. 16869B-103700US) filed on March 23, 2004.

Please replace paragraph [0002] with the following amended paragraph:

[0002]   The invention relates [[to]] generally to the field of storage devices, and more particularly to techniques to assure the genuineness of data stored on storage devices.

Please replace paragraph [0030] with the following amended paragraph:

[0030]   For similar reasons, access can also be restricted to clock circuit 108 to prevent inaccurate timestamps from being recorded to operation log area 154. Techniques for providing clock management and adjustment in connection with content retention in a storage system are described in U.S. Application No. [[__/___,___]] 10/807,857 (Attorney Docket No. 16869B-103700US) filed on March 23, 2004.

Please replace paragraph [0031] with the following amended paragraph:

[0031]   Consoles 3 may be connected directly to storage system 1 or through a communication network 12. While in one embodiment, communication network 12 is a wide area network (WAN), in other embodiments, communication network 12 may be any suitable communication network including a local area network (LAN), the Internet, a wireless network, a intranet, a private network, a public network, a switched network, combinations thereof, and the like. Communication network [[14]] 12 may include hardwire links, optical links, satellite or other wireless communications links, wave propagation links, or any other mechanisms for communication of information. Various communication protocols (such as TCP/IP, HTTP protocols, extensible markup language (XML), wireless application protocol (WAP), vendor-specific protocols, customized protocols, and others) may be used to facilitate

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communication between console 3 and storage system 1 via communication network 12. Communication network 12 can provide greater flexibility in managing and monitoring storage system 1. For example, a compliance officer at a corporate headquarters in New York City, New York can remotely manage and monitor a storage system 1 located in a branch office in San Jose, California.

Please replace paragraph [0036] with the following amended paragraph:

[0036]   1.   Manage logical volume attributes. Each logical volume of storage system 1 has a volume attribute, which can be either "normal," "offline," or "write protected." The normal attribute indicates that the logical volume can accept both read and write operation from host computer 2. The offline attribute indicates that the logical volume cannot be read or written from host computer 2. A logical volume can be designated as offline by an authorized user via consoles 3. The authorized user may elect to do so to prevent all access to a logical volume. Also, storage system 1 may automatically designate a logical volume as offline if a failure occurs (e.g., failure of a hard disk drive underlying the logical volume). The write protected attribute indicates that the volume is write protected and cannot be written from host computer 2. The volume is write protected for a specified "retention period." After the attribute of the logical volume is changed to write protected, host computer 2 cannot write data to the logical volume, nor can anyone [[can]] change the write protected attribute during the retention period. Once the retention period expires, users can change the attribute to normal, so that host computer 2 can write data to the logical volume. As an embodiment of the present invention, the retention period must be specified by a user when the write protected attribute is first set. Alternatively, the retention period can be set automatically to a default period. In addition, after the retention period has been set, as an alternative embodiment, an authorized user may increase the duration of the retention period, but not shorten it.

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Please replace paragraph [0054] with the following amended paragraph:

[0054]   Information detailing hardware state or configuration is stored in system operation log [[300]] 200 whenever an event results in a change to the state or configuration of the storage system 1 is changed. Fig. 5 shows an example of the system operation log 200 according to an embodiment of the invention. Time 201, a timestamp, indicates the time a state or configuration change occurs. Operation 202 is a brief description of the state or configuration change at the indicated time. In an embodiment of the present invention, the storage manager 151 can store one or more of the following conditions in the system operation log 200: